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BURNS AND SCALDS.

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THE following paper is based upon the records of two hundred and four cases of burns and scalds treated in the Boston City Hospital during the eleven years from 1864 to 1875.

All of the severe gunpowder cases have been omitted, as the burn was secondary in importance to other injuries. Cases of deformity, the result of burns, are also omitted, as not coming strictly under that part of the subject to be considered.

Sex. — A little over half of the cases (111) were females, and they comprised two thirds of the fatal cases. The reason of this will be readily seen when the sources of the injuries are considered.

Age. — The ages varied from three to seventy years. The largest number in any one decade was fifty-five, between twenty and thirty. The next two decades had forty-one each. Only ten were received and treated under ten years of age. This is one twentieth of the whole number admitted, and is a very much smaller proportion than is given by the statistics of some of the English hospitals. Of four hundred and eight cases of burns consecutively admitted to Guy's Hospital, the majority were children. The difference in the experience of Guy's and the Boston City Hospital may be explained on the ground that burned children are not as commonly taken to the hospital in this city as in London, for they have some sort of place in which to be taken care of. On looking over the records of deaths at the city registrar's office, we found that of two hundred and twenty deaths from burns and scalds which have taken place in this city during the ten years from 1864 to 1874, one hundred and thirty-four (sixty per cent.) were under ten years of age. This fact would tend to show that these accidents probably preponderate among children in Boston as well as in London, but are not as often treated in our hospitals.

Cause. — Almost half of the patients treated in this hospital for burns received their injuries from hot water and other liquids, such as tea and coffee. Most of the slight and comparatively few of the fatal cases were caused in this way.

Twenty-six cases were caused by burning kerosene oil, and two thirds of the patients died. Injuries received by this agent were usually severe, from the fact that they were often the result of explosions of lamps or cans, by which large portions of the clothing were saturated with oil, and burned very rapidly. The fluid also adheres to the skin, and is with difficulty removed or extinguished. Many of these cases occurred among women who were filling lighted lamps, or pouring oil from a can upon a lighted fire to hasten its kindling. Some of the very worst injuries were received in this manner.

An equal number of cases were caused by the clothes taking fire from a stove, furnace, or gas-jet. All but six of the patients were women, their mode of dress especially exposing them to the accident.

A not uncommon cause of burns of the face and hands should be more generally known among those having charge of furnaces. We refer to the gas which becomes ignited, and rushes from a closed furnace when the door is opened suddenly. A few of the above cases were due to this cause, and we have known of others in private practice. A gentleman well known in this city suffered a temporary loss of a portion of his whiskers, eyebrows and eyelashes, and of the epidermis of his face, in this manner. Fortunately his eyes escaped injury. These burns are generally superficial, and can be easily avoided by first opening the draught and then standing away from the door of the furnace.

Among other sources of the injuries in the above cases may be mentioned the following: jute catching fire from a gas-jet and burning the scalp, face, and hands; gas explosions; melted iron and brass; falling on the stove or fire, a very common accident among epileptics; sulphuric acid thrown in the face and eyes; gunpowder.

Location and Extent. — The severity of the injuries varied from a slight erythema to the charring of a limb; from a small patch of denuded surface to the destruction of almost the entire skin of the body. In general terms, it may be said that in one third of the fatal cases nearly or quite the entire surface of the body was burned; in another third the injuries were confined to the upper part of the trunk, the upper extremities, and the face; and in the remaining third the lower part of the trunk and lower extremities were principally involved. In the favorable cases, the lesions were situated in all parts of the body. Among the severest accidents which recovered may be mentioned the following: —

A woman received a deep burn on the head by the bursting of a kerosene lamp. The wound was of the third degree, that is, involved the whole thickness of the scalp. It was six inches long by three wide, and was situated directly over the longitudinal sinus. One ear was entirely burned off, and the other was partly destroyed. The tympani were injured so that partial deafness followed. She recovered without a single unfavorable symptom.

Another woman, seven months pregnant, was burned by kerosene all over the posterior part of her body, from her knees to her shoulders, so that her back, nates, and posterior part of the thighs formed one large supparating surface, compelling her to lie constantly on her abdomen. Yet her child was born alive at the end of twenty-three days, and she recovered.

Another pregnant woman received a severe burn involving the entire abdomen, and destroying the true skin in places. She made a good recovery and did not lose her child.

A young woman was burned upon her neck, chest, and arms by kerosene. A pitch plaster, which was upon her chest, took fire, and before it could be removed had burned large sloughs in both breasts. She recovered in a month.

On the other hand one man died in consequence of exhaustion following a moderate scald on the outer surface of one foot.

Two patients were burned internally, by inhaling flame and steam, and both died in a few hours with the most intense suffering.

Two burns of the leg, and one of the hand and arm, required amputation. The latter case is interesting as being the first important amputation in this hospital in which all the vessels of the stump were secured by torsion. The hæmorrhage was easily controlled, and did not return. The patient made a good recovery.

Symptoms and Complications. — Of course the most common symptom in recent cases was pain. Burns of the first and second degrees were often exceedingly painful, requiring large doses of opium, and, in some cases, ether, for their relief. In a few of the severest accidents, the patients did not lose consciousness nor suffer much pain. This was due to the peculiar shock to the nervous system, and the cases were almost always fatal.

Only four of the thirty patients reported as suffering from collapse recovered. It is probable that this condition existed in many more cases, but they had either rallied before coming to the hospital, or the fact had been omitted in the notes, for no injuries are more liable to be followed by shock than these. Chills and delirium were very frequent symptoms in the fatal cases, and were present in a small proportion of the favorable ones. The delirium was of a low, muttering type, and disappeared on the return of the patient's strength. Delirium tremens was present in four instances. One was fatal, and would probably have been so had not this complication occurred. Nausea, vomiting, and pain in epigastrium were frequent symptoms; so much so that it has become the practice in this hospital to put all patients, whose injuries are of any consequence, upon a mild diet from the first, and experience seems to justify the treatment.

According to the records diarrhœa was not quite as frequent as the

gastric derangements, especially in the fatal cases. Three quarters of the patients who suffered from vomiting died, but only half of those who had diarrhœa. This is probably due to the fact that the latter complication does not set in as early as the former, seldom being present before the second week, or later. In the long, lingering cases the intestinal symptoms were as common as the gastric. In the majority of instances of diarrhœa, the stools were not bloody, or of such a character as to indicate any ulceration of the bowels. No autopsies have been made here upon patients who have died of burns and scalds. This is to be regretted, as but a vague idea of the intestinal lesions can be formed from the symptoms. There may be severe symptoms with slight lesions, and *vice versa*.

Erysipelas occurred only five times. Two of the patients died; one in ten, and the other in fifty-nine days. The erysipelas did not produce this result, but probably hastened it. The period of invasion varied from three days to a month after the reception of the injury. It is stated by a French authority that a wound made with a caustic, as in removing tumors, is never attacked by erysipelas. The comparative infrequency of this complication in the above cases would seem to corroborate the notion that such wounds are not as liable to this disease as those produced in other ways. The French surgeon's statement, however, is not true for this country, for we have seen severe erysipelas attack a wound made with chloride of zinc. A growth had been removed from the scalp with this caustic. In a few weeks the patient had erysipelas which extended all over his face and head, increasing his suffering but not proving fatal.

Five epileptics have been treated for burns, and all recovered. Every one received the lesion by falling on a hot stove during a fit. With one exception the injuries were not severe. As a rule the fits recurred during treatment. Bromide of potassium was generally sufficient to lessen their frequency, but on omitting the drug the seizures returned as often as before.

Six insane or demented persons were injured by fire or hot water, and two died. Their wounds were exceedingly slow in healing, and they seldom complained of any pain.

There was but one case of secondary hæmorrhage following a burn, and in that the bleeding was from the palmar arch. It was controlled by a deep double ligature passed with a curved needle.

Among the other complications were pneumonia, bronchitis, cerebral affections, perforation of the tympanum, with partial deafness, and retention of urine; of each of these there were two cases. Phthisis, gangrene of the lung, peritonitis, albuminuria, phosphatic diathesis, epistaxis, and iritis, each furnished one case.

Among these two hundred and four patients, burned or scalded, were

six pregnant women, all severely injured. A brief *résumé* of their cases follows : —

Mrs. A., aged twenty-eight, seven months pregnant, undertook to light a fire with kerosene oil. The can exploded, set fire to the woman's clothing, and burned her chemise, skirt, and crinoline entirely from her. The injuries were severe, and extended from the knees to the shoulders, completely covering the posterior surface of the body, as well as portions of the arms and hands. The wounds were dressed with white paint, which gave considerable relief. The patient was forced to lie continuously on her abdomen, on account of the large suppurating surface on her back and nates. At the end of twenty-three days she was delivered of a living child after a normal labor of only a few hours' duration. She never nursed the baby, as she had no milk. In spite of pain, chills, delirium, vomiting, diarrhœa, and bedsores, she improved steadily, and in fifty-two days was discharged in a comfortable condition, with a good prospect of recovery.

Mrs. B., aged twenty-five, near her full term of pregnancy, was severely burned on her right side by her clothes taking fire. The injuries extended from the knee to the axilla, and reached beyond the median line on the abdomen. The true skin was destroyed in places. A living child was born thirteen hours after the accident. In about twenty-four hours the mother began to fail. She had epigastric and hypogastric pain, scanty lochia, vomiting, diarrhœa, chills, delirium, a diphtheritic deposit on tonsils and fauces, tympanites, retention of urine, bedsores; and finally she died, sixty-three days after the accident. The burns never healed.

Mrs. C., aged thirty-five, eight months pregnant, was burned by kerosene oil on her face, neck, arms, thighs, chest to the nipples, and a small spot on the abdomen. The true skin was destroyed in places. Labor came on within twenty-four hours, and she gave birth to a dead child, whose cuticle was macerated off in several places. The lochia soon ceased; delirium, epigastric pain, and exhaustion followed, and the patient died in eight days.

Mrs. D., aged forty, in her eighth month of pregnancy, was injured about the head, face, neck, and upper extremities by her clothes catching fire. The burns were of the second degree, and exceedingly painful. She made a good recovery, carried her child to the full time, and both were alive and well a year after the accident.

Mrs. E., aged thirty-eight, eight and a half months pregnant, by the explosion of a kerosene lamp was burned severely upon her face, neck, upper extremities, sides of chest, back, and nates. She was placed in a warm bath, but grew so faint, in spite of stimulants, that that treatment was abandoned, and a mixture of mucilage and glycerine was applied to the wounds. She had a natural labor within twenty-four hours,

and gave birth to a dead child. The next day she grew worse, had great pain, delirium, tympanites, diminished lochia, and died in five days of exhaustion.

Mrs. F., aged twenty-nine, five months pregnant, was severely burned all over the abdomen and left nates by hot water poured upon her by her husband. The true skin on the left side of the abdomen was destroyed. She had some diarrhœa, but recovered perfectly in thirty-seven days without losing her child.

Half of the mothers and two thirds of the children were saved. This is a very favorable record, considering the nature and severity of the injuries received. As a rule, pregnant women withstand accidents and diseases of all kinds but poorly, premature labor and death being apt to follow in the severe cases. It is surprising, therefore, that so many of the above should have been able to carry their children through a long, severe period of suffering and prostration, with safety to themselves and their offspring.

Results. — "Half the cases of burns admitted into a hospital die, and half of those that die do so within the first three days." The latter part of Bryant's statement is confirmed by the experience of this hospital, but not the former. Of the two hundred and four cases admitted to the City Hospital, forty-five died. That is, one in four and a half was fatal, instead of one in two. Half of them (23) died within two days. The others lived from four to sixty-two days, and died from exhaustion produced by the original injuries or by some complication.

Two thirds (30) of the fatal cases were females. Among the deaths from burns in this city during the past ten years previous to June, 1874, the females were one hundred and eleven, and the males one hundred and nine.

The ages varied from five to seventy years. Only four (nine per cent.) were under ten years of age. This is a remarkably low proportion when compared with some of the English statistics. The deaths from burns and scalds in Great Britain in 1845 were two thousand nine hundred and nine. Seventy-eight per cent. were under ten years of age. As stated above, the deaths under ten years of age from these injuries in Boston, during the ten years previous to June, 1874, were sixty per cent. This of course includes hospital as well as private cases. This percentage is eighteen less than the English, but seven times as large as the hospital rate. It certainly tends to prove the statement, heretofore made, that the majority of patients who die from burns and scalds in this city are under ten years of age, but that they are not, as a rule, taken to the hospital for treatment.

Contraction of the cicatrix, so liable to follow burns of the third degree, was seldom seen, for the patients were usually discharged as soon as their wounds were healed, and before there had been time for much deformity to take place.

Treatment. — The great variety of substances used in this hospital and elsewhere as a primary dressing for burns proves conclusively that no one application is clearly above all the others in value. Every one allows that the first dressing should be mild and soothing, and capable of affording a protection to the injured surface ; but which of a dozen or more substances used best fulfills these indications is a disputed point.

Carron oil has been and is the favorite local remedy for these accidents in this hospital. Aside from its disagreeable odor, it is an excellent application, and in many cases may be continued till complete recovery ensues. It is best applied on soft cloth or sheet lint, which should be kept saturated, without being removed oftener than is absolutely necessary. The next most popular dressing is a paste made of molasses and pulverized gum arabic. It is more convenient for those parts of the body which need not come in contact with the clothing, as the trunk and lower extremities. These should be protected by cradles, and the application made two or three times a day with a soft brush. It is a good dressing in those cases not attended with a profuse discharge.

White paint, made of carbonate of lead and linseed oil, has been used a number of times with excellent results. In one case of a scald of the hand and arm in which this dressing was applied, it was very agreeable before the epidermis was removed, but so intensely painful afterwards that it had to be given up. The odor is certainly preferable to that of carron oil, and it is a cleaner dressing. Dr. Gross speaks of the paint in the highest terms as being the best local application he has ever used. He has never seen any poisonous effects from the lead in an experience dating as far back as 1845. He used it continuously for five weeks on a negress with an extensive burn of the neck, chest, and abdomen, consuming more than a quart of lead without any bad effect. He believes it perfectly safe, whatever the extent or depth of the lesion or the age of the patient. It acts by forming a varnish to the affected surfaces, and obtunding the nervous sensibility. It should be applied with a brush, and covered with a layer of cotton batting.

Glycerine, glycerine and molasses, glycerine and mucilage, and lead wash and opium have been used in a few cases, but they have no particular advantages over other remedies. The same may be said of the powders of oxide of zinc.

The late Dr. Derby made use of the dry earth treatment in a few cases of burns, but it never became a favorite method of treating these wounds or any others in this hospital. It is by no means a cleanly or convenient dressing. It hides the wounded surfaces, and forces the surgeon to depend in a great degree upon the sensations of the patient, which are seldom to be trusted, as an indication of his condition.

We do not know whether Billroth's favorite dressing has been used

here. It consists in applying compresses wet in a solution of nitrate of silver, ten grains to the ounce of water, to the parts constantly. Gross speaks well of it in light burns attended with much smarting and pain. Billroth recommends it highly in all degrees of these injuries.

The treatment in the later stages of burns is the same as that for ordinary granulating surfaces. Among the most common agents used in this hospital are weak solutions of chlorinated soda, benzoated oxide of zinc ointment, and simple cerate. Strapping with ordinary adhesive plaster is beneficial, not only to repress exuberant granulations and hasten the healing process, but also to keep the cicatricial tissue soft and pliable, and in a measure to prevent contraction. It should be continued some time after the wounds are entirely healed.

Reverdin's process of skin-grafting has been tried in numerous instances with fair success. In the favorable cases the recovery was hastened, and the cicatrix quite as firm and durable as in those cases not so treated.

In a few cases it was impossible to heal the wounds during the time the patient was allowed to remain in the hospital. These patients became debilitated, the recuperative powers exhausted, and they were discharged with the hope that a change of air and surroundings might improve their general condition sufficiently to allow the healing process to become reëstablished.

SENILE GANGRENE OF THE FOOT; AMPUTATION WITH ANTISEPTIC MEASURES; RECOVERY.

BY DRS. G. W. GARLAND AND G. W. SARGENT, OF LAWRENCE, MASS.

Mr. S., aged sixty-nine, had been afflicted with dry mortification of his left foot for many months. The nocturnal pain which he suffered, and the disgusting fetor, caused him to loathe his existence, and such were his piteous entreaties for the removal of the foot that his friends at last, although advised of the improbability of success in any operation, requested the amputation. Emaciation had reached an extreme point, and every artery that could be felt gave marked signs of ossification. The face was dusky; the pulse frequent and feeble, intermitting on change of position. The action of the heart was stronger than was indicated by the pulse. The patient and his surroundings were as unpromising as could well be imagined.

The day of the operation was the 27th of June, 1875. The thermometer registered 96° in the shade.

The leg was amputated at the middle by the circular operation. The disinfecting or antiseptic treatment was fully carried out with regard to instruments, as well as to sutures and ligatures. The arteries

were completely ossified; the tibial stood out like a tube of bone, and emitted a stream of blood not larger than a fine thread. The smaller arterial branches could be felt readily on taking the flap between the thumb and fingers. After the arteries had been secured, the stump was washed freely with a solution of carbolic acid, one drachm of the crystals to a pint of water, and during the introduction of sutures and the bringing the parts into contact, the solution was continually allowed to drip upon the exposed edges. The end of the stump was covered with cotton thoroughly filled and dusted over with salicylic acid in powder, and held in place by two adhesive straps; over the straps more cotton was adjusted, each layer being dusted freely with salicylic acid. Over all a roller was applied, and the entire dressing was allowed to remain untouched for five days; the dressing was then removed and the stump was found but little swollen. The cut edges, which were in sight, were as bright and fresh as when the knife passed through them. Two sutures were removed and the edges of the flaps were allowed to part a little so as to permit the renewed application of the carbolic-acid lotion. A thick pad of cotton soaked in the solution was laid upon the end of the stump and held in place by adhesive straps, and the dressing completed as before.

After this the dressings were changed daily. Healthy granulations began to appear in a few days; their further development was promoted by the use of nitrate of silver, sulphate of zinc, and carbolic acid. During the entire treatment the patient suffered but little pain, and after two weeks no swelling of the stump was visible. One bottle of wine was allowed daily. Nourishment was freely administered.

September 3d. The stump is now nearly healed. Cicatrization has been slow but constant, and will doubtless be complete in a short time. The patient has gained flesh and strength, and is able to walk about his room with the aid of crutches.

This is the first time we have used the salicylic acid except in minor surgery, and we send you this brief report of the case to call the attention of the profession to its use, and to encourage surgeons to operate in similar cases. Carbolic acid and cotton were also used, but we think they would not have kept the stump perfectly sweet and free from change those five hot days in an ill-ventilated room.

RECENT PROGRESS IN THERAPEUTICS.[1]

BY ROBERT AMORY, M. D.

Iodide of Potassium. — Investigations by Hoppe-Seyler, as observed by Dr. Kämmerer,[2] have shown that the oxyhemoglobine is an unstable combination of oxygen with the red corpuscles of the blood, and that oxygen will readily give up this combination when a substance having a stronger affinity for it is introduced into the blood. The characteristics of the oxygen in the blood resemble those of ozone. Kämmerer observes also that the best test for ozone is furnished in the evolution of iodine from iodide of potassium in the presence of starch; the presence of free iodine is determined by its characteristic blue tint. On the other hand, the more stable combination of iodine and sodium known as iodide of sodium can undergo no change in the stomach; as it is neither decomposed by the hydrochloric acid present in the stomach, nor decomposed and precipitated by the albumen compounds, such as starch or sugar, which may be present in that organ. Thus iodide of potassium passes into the blood in an unaltered form. The free carbonic acid in the blood will then cause a decomposition of the diluted iodide of potassium, producing hydriodic acid and bicarbonate of soda; consequently iodine will be set free. Again, hydriodic acid dissolved in the blood becomes oxidized, and gives out free iodine. The free iodine will then act only on the organic compounds, and especially on those whose combination is the most complex. These latter are, first, the compounds produced by miasma and the ferments; next, the fibrin and its allied elements. Moreover, by the decomposition of iodide of potassium, potassium peroxide is formed; and this latter agent has the power of oxidizing organic compounds, producing in turn potassa; and, by combination with carbonic acid, carbonate of potassa. In this way a theory of the action of these salts may be formed: by supposing the organic constituents of the blood to undergo oxidation, and thus to facilitate the oxidation of the tissues.

Phosphorus. — The *Practitioner* for January, 1875, contains an article by Dr. W. H. Broadbent on the therapeutical uses of phosphorus in certain affections of the nervous system. His experience with this agent leads him to think it is not useful in those forms of neuralgia in which a touch, or a movement, or a breath of air affecting a nerve-area — usually the inferior division of the fifth pair — sends a dart of exquisite pain along the nerve and to its other branches. Dr. Broadbent found that some very serious cases of patients reduced by an extreme alteration of the blood (one case of leucocythemia splenica, another called by Trousseau essential anæmia), which did not mend under treatment by iron, im-

[1] Concluded from page 336.

[2] Archiv der praktische Arzt, xv., 81.

proved very greatly in general condition and in color of complexion when phosphorus was given. Two patients afflicted with what the author calls anginoid pain, one of whom had also organic disease of the heart, were relieved of the neuralgia, and improved in general health and appearance. Dr. Broadbent forms his theory of the action of phosphorus "not from any direct influence upon the nervous functions, but from favorable modification of the organic processes leading to improved nutrition of the nervous structures." The phosphorus was given in capsules one to three times a day.

Local Effect of Cold applied to the Scalp. — Dr. Benham,[1] from a number of very laborious and careful experiments on the human body, living and dead, and on lower animals, asserts that cold applied to the scalp "causes a slight lowering of the temperature of the body generally, by the direct action that cold has in lowering the temperature of the stream of blood passing through the capillaries in direct contact with it, and a slight decrease in the frequency of the heart's action. . . . A greater effect in the same direction may be more easily produced by other and less violent means."

The Antagonism of Medicines. — The report of the committee of the British Medical Association to investigate the antagonism of medicines[2] is a most valuable contribution to therapeutics. The labors of this committee (composed of Drs. J. Hughes Bennett, McKendrick, James Rogers, Macadam, Edmund Cook, and Mr. T. Smith) extended over a period of four years, and comprised the results of six hundred and nineteen experiments. They obtained positive results of physiological antagonism in three instances, namely, between hydrate of chloral and strychnia, sulphate of atropia and calabar bean, and hydrate of bromal and atropia. The physiological antagonism of these medicaments, under proper conditions of time, dose, comparative weight of the animals, etc., would seem as positive as the chemical antagonism formed by the union of an acid with an alkali. The method by which these experiments were conducted was based upon the following data: to determine by actual trial what was the minimum fatal dose of each drug to a given weight of the animal; then to administer the two drugs hypodermically, one immediately after the other. If the animal survived the experiment for five days, then the same dose of the first drug was administered, with the expectation that the result would be fatal to its life.

The general conclusions of the committee regarding the antagonism between chloral hydrate and strychnia are, —

1. That after a fatal dose of strychnia life may be saved by bringing the animal under the influence of chloral hydrate.

[1] The Practitioner, March, 1875; from the West Riding Lunatic Asylum Medical Reports, vol. iv.

[2] British Medical Journal, Nos. 718 to 724, and Nos. 726 and 727.

2. That chloral hydrate is more likely to save life after a fatal dose of strychnia than strychnia is to save life after a fatal dose of chloral hydrate.

3. That after a dose of strychnia producing severe tetanic convulsions, these convulsions may be much reduced, both in force and in frequency, by the use of chloral hydrate, and consequently much suffering saved.

4. That the extent of physiological antagonism between the two substances is so far limited that, first, a very large fatal dose of strychnia may kill before the chloral hydrate has had time to act; or, secondly, so large must the dose of chloral hydrate be, to antagonize an excessive dose of strychnia, that there is danger of death from the effects of the chloral hydrate.

5. Chloral hydrate mitigates the effects of a fatal dose of strychnia by depressing the excess of reflex activity excited by that substance, while strychnia may mitigate the effects of a fatal dose of chloral hydrate by rousing the activity of the spinal cord; but it does not appear capable of removing the coma produced by the action of chloral hydrate on the brain.

Sulphate of atropia antagonizes to a certain extent the fatal action of calabar bean, but the area of antagonism is very limited. The danger is, not death by too great a dose of sulphate of atropia, the supposed antagonist, but death from the effects of calabar bean. In the instance of the antagonism of strychnia to chloral the danger lies in giving too large a dose of the antagonist, strychnia; whereas in poisoning from calabar bean, sulphate of atropia, even in large doses, produces so slight an effect on rabbits that the fatal action of the calabar bean may go on without opposition. Chloral hydrate as an antidote to calabar bean seems to have more weight, and appears to modify to a great extent the action of a fatal dose, and to prolong life; in some cases it apparently saves life after a fatal dose of extract of calabar bean. Upon this point the committee very properly state that chloral hydrate is of comparatively little service as an antagonist to extract of calabar bean if given some time after the latter. "The reason of this is very obvious. Extract of calabar bean produces its most severe physiological effects ten or fifteen minutes after the administration of the fatal dose. In some cases the effects occur even sooner. On the other hand, a rabbit is not deeply under the effects of hydrate of chloral until fifteen or twenty minutes after its administration. If the effects of calabar bean appear before those of hydrate of chloral, they usually run quickly to a fatal issue, because the antagonist, hydrate of chloral, is not acting with sufficient vigor to restrain them. . . . There is no chance at all of saving life if the chloral hydrate be administered more than eight minutes after the extract of calabar bean."

The committee also investigated the antagonism between morphia and atropia. Having carefully determined the fatal dose of sulphate of atropia and meconate of morphia, twenty-one experiments were made on rabbits, in which the former drug was administered at various intervals after a fatal dose of meconate of morphia. In six of these cases recovery occurred. "When the crucial test was applied to these six rabbits six days later, four died and two recovered. In all cases there could be no doubt that the subsequent injection postponed the fatal issue, if it did not save life. . . . After sulphate of atropia the pupil (which was contracted by a dose of meconate of morphia previously given) slowly dilated. . . . It was observed also that the vessels of the ear, turgid with blood after the large dose of meconate of morphia, contracted considerably about eight or ten minutes after the introduction of the sulphate of atropia."

The conclusions of the committee on this subject are: —

"1. Sulphate of atropia is physiologically antagonistic to meconate of morphia within a limited area;

"2. Meconate of morphia does not act beneficially after a large dose of sulphate of atropia, for in these cases the tendency to death is greater than if a large dose of either substance had been given alone;

"3. Meconate of morphia is not specifically antagonistic to the action of sulphate of atropia on the vaso-inhibitory nerves of the heart; and

"4. The beneficial action of sulphate of atropia after the administration of large doses of meconate of morphia is probably due to the action sulphate of atropia exercises on the blood-vessels. It causes contraction of these, and thus reduces the risk of death from cerebral or spinal congestion, as is known to occur after the introduction of fatal doses of meconate of morphia. It may also assist up to a certain point, not precisely fixed in these experiments, by stimulating the action of the heart through the sympathetic, and obviating the tendency to death from deficient respiration observed after large doses of morphia."

After showing the contradictory evidence of Harley[1] on the one side, and Mitchell, Keen, and Morehouse[2] on the other, the committee conclude from five original experiments of their own, "that in dogs sulphate of atropia modifies the symptoms of poisoning by meconate of morphia, diminishes their intensity, and may even save life after a fatal dose of the latter. It is therefore decidedly antagonistic, but within a limited area. In man sulphate of atropia would be too dangerous and uncertain a remedy to depend on in cases of poisoning by opium or any of its salts, but where the heart's action is greatly diminished it is directly indicated."

The committee also inquired into any supposed antagonism between

[1] Old Vegetable Neurotics.

[2] American Journal of the Medical Sciences, 1865 page 67.

the alkaloids of tea, coffee, cocoa, and guarana; and simply concluded that theine, caffeine, and guaranine might have some slight influence in modifying some of the symptoms, and may perhaps even save life; whilst, on the other hand, the animal may die either from too large a dose of the caffeine or of the meconate of morphia; but there is a point between the two actions where the physiological effect is such that life may be saved from doses which would otherwise prove fatal. Guaranine seemed rather to increase than to modify the tendency to coma.

Effects of Immersion in Baths. — Immersion in waters charged with carbonic acid, and at the temperature of the body, produces at first a diminution of the peripheral circulation, followed by a determination of blood to the surface of the body; the former of these effects is accompanied by elevation, or at any rate maintenance, of the initial temperature of the mouth and shoulders. After the bath the temperature of the mouth and armpit is less than when in the bath; the cutaneous circulation is increased. Gradually the internal temperature increases. These phenomena are constant whether fresh water or mineral water is used, though the latter has more influence in producing the calorific effects. If the head is immersed in the water the temperature is still further lowered. This diminution of the temperature of the mouth and armpit produced by tepid baths, and the depressing effects on the cutaneous circulation, have been noticed for four or five hours after the bath. The general inference drawn by Jacob[1] is summarized as follows: —

Lowering of the temperature of the blood, acceleration of the circulation, its determination to the cutaneous surface, corresponding anæmia of the internal organs, increase of nerve action, and of that of the whole nutritive system.

A case is presented by M. Raynaud,[2] where an acute articular rheumatism was cut short in three days by the use of cold baths given every six hours. Another case of cerebral rheumatism, in which the temperature of the armpit indicated 107° Fahrenheit, was treated by immersion in water at 73.5° gradually reduced to 70°; the temperature was brought down to 101°. Two hours after this another bath having a temperature of 60.8° reduced the temperature one degree more. But it was observed that the severe symptoms persisted, and it was only on the fourth day, and subsequent to the eleventh bath, that the patient first began to show signs of intelligence. Moreover, though the first bath at 60.8° was well borne, another bath at the same temperature was followed by a dangerous collapse, in which the temperature was reduced to 95°.

The duration of immersion in the bath of 73.5° to 70° was one hour, and the cooling effect was manifested in about fifteen minutes, and in

[1] Archiv für pathologische Anatomie und Physiologie, lxii.
[2] L'Union Médicale, No. 465.

the last quarter of an hour the most rapid lowering of the temperature occurred. The results of this treatment were complicated by the use of bromide of potassium in hourly doses of fifteen grains for ten hours a day. On the fifth day the twelfth and last bath was given, and from this time the recovery became assured.

Beneke [1] cites one hundred and forty-six observations in the treatment of rheumatism with cardiac complications, which clearly demonstrate the influence of baths taken at a temperature of 88° to 93° with water containing two to three per cent. of salt and a little carbonic acid. The first effect of this treatment was a moderation of the cardiac activity. An example is cited as follows: A man aged forty-one years, after a fourth attack of rheumatism presented himself with insufficiency from a marked mitral stenosis (or contraction of the mitral orifice). There was a slight hypertrophy of the heart, cyanosis, and dyspnœa, frequent cough, with expectoration, indicating pulmonary œdema; the urine was quite albuminous, and the pulse very irregular. After the first bath at 90.5°, in two and one half per cent. of "mother water" (the supernatant water from the crystallization of salt), and immersion of ten minutes, the pulse-rate was slower and more regular. After a continuance of amelioration of the various symptoms for nine days (during which twenty-five baths were taken), the patient left in good health, except that the albuminuria had rather increased than diminished, and this was attributed, after a microscopic examination of the urine sediment, to an interstitial nephritis. Only once did Beneke observe that the baths caused an acceleration of the pulse-rate; this was in the case of a young man who had a double mitral lesion. The cure at Nauheim was followed by a disappearance of the articular exudations, particularly in the acute form of rheumatism. In combination with the baths the patients took as a drink fifteen to twenty ounces of the diluted natural water. A careful regimen was imposed (a small quantity of albuminoid substances, abundant vegetable nourishment, light wines, and black tea, but no eggs). In order to continue the good effects of the water-cure, the patients were ordered to drink every morning six to eight ounces of a solution of common cooking salt in the proportion of $\frac{1}{1000}$. According to Beneke this treatment favors a relief to the circulatory disturbances, improves the general health, and tends to cause a disappearance of the recent valvular vegetations.[2]

[1] Berliner klinische Wochenschrift, 1875, ix. and x.

[2] See also Gazette hebdomadaire de Médecine, 1875, vii. and viii.; The Lancet, November 14, 1875, page 692; Revue des Sciences médicales, 15 Juillet, 1875.

ENGELMANN ON THE MUCOUS MEMBRANE OF THE UTERUS.[1]

This nicely executed reprint is in some degree a second edition of a paper on the same subject, in German, by the author and Kundrat, published in 1873, but differs from it by the alteration of parts written apparently by the former of these observers, without the approval of the latter. The paper is of especial value, as in spite of all that has been written on the subject there is a great deal of our supposed knowledge that is so vague as hardly to deserve the name.

There are few more difficult problems than to determine whether the envelopes of the ovum be perfectly normal, or to give the just weight to the various appearances the lining of the uterus may present.

We cannot, of course, give a *résumé* of so comprehensive a work. It is well and carefully performed, the author keeping closely to the facts acquired by his studies, and forming no theories. Indeed, he is perhaps a little too iconoclastic in treating as absurd certain theories which he has not disproved. We notice this particularly in the discussion of the formation of the placenta, which seems to us the least satisfactory part of the work. Engelmann thinks it improper to speak of the villi as floating in the blood of the mother, because the walls of the vessels containing the latter still exist. This is true, but is a theoretical rather than a practical difference. The author seems not to be free from some prejudice against the sinus view, for although the injections which he studied were made by experienced hands, he "cannot preclude the possibility that the injected fluid had ruptured the delicate capillary walls and penetrated the interstices of the tissue, thus producing the puzzling appearances described, so that the sinuses would be mere artificial products." No mention is made of Dalton's conclusive experiments by blowing in air under water, nor of the more recent ones by Turner.

In conclusion we can recommend the book as one of practical value, for questions of the kind treated in it are puzzling not only as scientific problems but as steps in legal investigations of great importance.

SPRATT ON GOUT AT THE HEART.[2]

That a book on this subject, no matter how valuable, should reach a twelfth edition strikes one as so surprising, that, if very innocent like ourselves, he takes it up with a feeling of joy that he is going to receive precious informa-

[1] *The Mucous Membrane of the Uterus, with special reference to the Development and Structure of the Decidua.* By Geo. F. Engelmann, M. D. From the American Journal of Obstetrics. New York: Wm. Wood & Co. 1875.

[2] *A Synopsis of the Symptoms of Gout at the Heart. Also a few Practical Remarks on Epilepsy, etc.* By Eldridge Spratt, the Founder Dean and eighteen years Senior Physician to the Hospital for Diseases of the Heart, etc. Glasgow: James Maclehose; London: W. Tweedie; Philadelphia: J. B. Lippincott & Co. Twelfth edition. 1875.

tion, such as is not easily to be obtained. As on perusal the reviewer finds nothing to justify his expectations, his dovelike innocence gives place to ophidian wisdom, which we unfortunately have not the proper voice to express. The introduction shows that the book is written not for the profession but for the public, and, in another sense, for the author. This alone would not prevent the book from being a good one, though the subject is not a pleasant one for nervous patients, but the whole style and matter are so poor that the book can be looked upon only as a "nest-egg to make clients lay."

MIND-READING.

Some of our readers will no doubt remember the visit to this city last winter of a certain Mr. Brown, one of the class of so-called mind-readers, whose performances consist in discovering, while blindfolded, the whereabouts of articles which have been hidden in any part of the room, in picking out from an alphabet of large letters, hanging at the back of the stage, those which spell a word that some person holds in his mind, and in similar tricks. The *modus operandi* of Mr. Brown consisted in walking, generally very rapidly, about the room, or up and down in front of the alphabet, while against his forehead was pressed the hand of the person with whom the experiment was conducted.

The latter individual was required to think closely and exclusively of the article hidden, or the word thought of, and was not allowed to close his eyes. Of course he undertook to restrain himself from giving any sign that could lead the experimenter to the right spot, and in some cases the known intelligence, honesty, and power of self-control of those who came forward from the audience made the successful experiments, which were numerous, appear truly remarkable — at first sight, indeed, incomprehensible; for in all cases Brown seemed to lead, even drag, his companion, rather than follow him, sometimes plunging madly among the occupants of a crowded settee, to find perhaps a visiting card hidden in the pocket of one of them. Certainly no muscular hints were given which were visible to the audience, or of which the subject of the experiment, in many cases at least, was conscious. No doubt was entertained, however, by most of those who investigated the matter, or reflected upon it, that such hints were given and followed, and that view is taken by Dr. G. M. Beard, of New York, in an interesting article published in the *Archives of Neurology and Electrology*.

The subject is referred to again at this late day because it has recently come to our notice that a gentleman who undertook to exercise himself in the art, for his own amusement, has been able to acquire a skill quite equal to that of Brown himself, without calling clairvoyance to his aid; and this expertness renders it probable that the talent required to do the tricks is not of so rare an order as has been supposed. Moreover the whole performance seems to us to furnish good illustrations of one or two well-known principles, of

great physiological interest. Of these the most important is one that finds at once support and application in the modern doctrine of the nature of aphasia and kindred disorders; namely, that the thought, the conscious mental conception, of an act, differs from the voluntary impulse necessary to the performance of that act only in that it corresponds to a fainter excitation of nervous centres in the cortex cerebri, which in both cases are anatomically identical.

Thus, in certain forms of aphasia the power to think in words is lost at the same time with the power of speech. Some persons think definitely only when they think aloud, and it would readily be believed in the case of children and uneducated persons that the ability to read would often be seriously interfered with if they were not permitted to read aloud. Similarly, a half-premeditated act of any kind slips often into performance before its author is aware of the fact. Further, there is reason to think, from the experiments of Hitzig, that these same centres may be excited by the stimulus of electricity so as to call out some of the simpler coördinated movements of the muscles on the opposite side of the body.

Applying, now, this principle to the case in hand, it will be evident that for the person experimented with to avoid giving "muscular hints," of either a positive or a negative kind, would be nearly impossible. The half-expectation on his part, especially after he has witnessed the success of one or two previous experiments, that he also will be called upon perhaps to arrest himself suddenly from a rapid walk, at some point which he can see in advance, must not only cause him to prepare his muscles for the required effort, but may be said absolutely to constitute the first stage of the innervation by which the effort is to be made. Inasmuch as this expectation is but vague, and the muscular preparation referred to is performed really involuntarily and unconsciously, it plainly could not be prevented from occurring, except under an amount of introspection and skill scarcely less than that possessed by the experimenter himself. Even if no positive guiding motion is made, the tension of the muscular system, which is such as to resist indifferently a pull in any other direction, would offer relatively little resistance to a pull in that direction, and those who saw how often Brown went to work, trying all the aisles in the hall, for example, before settling on any one, will be prepared to believe that he may often have taken advantage of hints given in this way.

It is true that sometimes he started off at once in the right direction, after simply holding the hand of his companion for a moment; especially was this the case with reference to the selection of the letters from the alphabet. But with regard to these cases it must be remembered, as the history of mesmerism and planchette abundantly proves, that with many people unaccustomed to self-control the mind has sometimes but little more connection with the acts of the body than has that of a spectator, the so-called unconscious cerebration being temporarily dominant; their testimony as to the giving of hints is therefore valueless. The rapid motions of the operator may perhaps have served him a useful purpose by rendering lateral pulls more perceptible, in accordance with well-known mechanical laws.

VENESECTION AS A HABIT.

An extraordinary case of habitual venesection is reported by Dr. E. Warren Sawyer in the *Chicago Medical Journal* for September, 1875. The subject of this habit is a retired clergyman, now eighty years of age. His firm step and keen intellect show an unusual degree of preservation for his advanced years. He is a farmer's son, and during his entire life has been unusually free from sickness. When seventeen years old, according to the custom of the period, and not for ill health, he was bled for the first time. This habit of spring bleeding was followed for the next six years. He then became a student, and the change from active farm work to a sedentary life caused a constant feeling of heaviness, to relieve which he resorted oftener to the lancet, and during the next ten years he was bled from four to six times a year, always losing from ten to fifteen ounces of blood. The frequency of the venesections increased, and for the past forty years the patient has suffered the extraordinary loss of eight or ten ounces of blood regularly every three weeks. During this period more than a barrel of blood has been taken from his veins He declares that he is always made better by bleeding; that letting a half bowl of blood acts as a stimulant, and has never been detrimental to his health. Until he retired from the pulpit, ten years ago, he was a hard-working minister, and he is to-day still capable of work.

For the past nine months this man has been under Dr. Sawyer's care, who has every three weeks bled him to the extent of from eight to ten ounces. The demand for blood-letting is shown by a dyspnœa, which appears during the last three days and nights of the interlude. So extreme is this that the patient is usually obliged to spend the night in his chair, just before his bleeding day. His lips and finger-nails become purple. Bleeding at once relieves the dyspnœa, and the natural color is restored to the lips and fingers; the man's spirits become lighter, he grows talkative, his voice is no longer husky, and he seems in every respect better. Repeated auscultatory examinations of the heart and lungs have failed to discover any organic disease of the former, and but slight evidence of vesicular dilatation of the latter.

The case is interesting physiologically from the fact that the blood-making function of the man's body has always been unusually active, and that there has never been a demand for a peculiar diet; clinically, in that the frequent and large losses of blood have never seemed to be hurtful or debilitating. It teaches the importance of observing great circumspection in repeating venesection at short intervals, lest the habit of a demand for the operation be established. As to the question whether in this case the habit once formed could not have been broken up, the history shows that for a time the bleedings were not actually demanded, but for many years past, in the opinion of Dr. Sawyer, it would have been detrimental, and perhaps attended with a fatal result, to have attempted a reformation of his patient's habit.

A CASE OF GUN-SHOT WOUND OF THE BRAIN.

A CURIOUS case of gun-shot wound of the brain is reported by Nathan Mayer, M. D., of Hartford, N. Y., in the *Medical Record* of September 4, 1875. On Friday, the 26th of March, early in the afternoon, a gentleman fifty-four years of age was shot by accident at his place of business. The mouth of the pistol — a Smith and Wesson revolver — could not have been at a greater distance than five or six feet from his head; the ball was twenty-two one hundredths of an inch in calibre. He was struck on the right side of the forehead, at a point one and a third inches from the middle line, and one third of an inch above the bony margin of the orbit. He fell, and became unconscious almost immediately. When consciousness returned — after a few minutes, it is supposed — he was vaguely impressed with the sense of physical injury, rose, gathered his keys, and left the office, locking the door behind him. He reached home without assistance, though the distance was nearly a mile, and he felt much confused. A half-hour later Dr. Mayer was with him. The patient was conscious, rational, and free from pain. A few drops of blood oozed from the wound, which presented clean edges. A probe was passed by the ragged edge of the perforated bone into the cavity of the skull, to a depth of two and a fourth inches, where it met the resistance of an elastic body, which imparted a slight and regular vibration. The pulse beat seventy-two, and the only general symptom that could be referred to the injury was a perceptible effort in speaking, and some thickness. Perfect quiet, but little nourishment, and cool lotions to the head were ordered.

Two physicians, who were called in consultation, agreed with Dr. Mayer that the ball had passed into the skull and lodged at some point where it caused slight pressure or inconvenience. Until the sixth day there was little change. The pulse remained at seventy-two, the patient claimed to be comfortable, and except some prostration and the indistinctness of speech, there were no general signs of injury. The first orders had been strictly adhered to, and *the wound kept open* by a wax bougie, which was introduced to the depth of three quarters of an inch several times a day.

From the sixth to the ninth day the speech grew more indistinct, and the pulse rose to eighty. On the tenth day the man could hardly talk, and would not swallow unless expressly ordered. The wound had been allowed to scab over, and there was some soreness in its vicinity. The patient became somnolent, with slight convulsions. A bag of ice was put on his head, and the former treatment continued. Next day (the twelfth) he was entirely speechless, signified that he had great pain in the head, and wore an expression of collapse. The scab was taken off the wound, and a teaspoonful of creamy pus spurted forth. Later in the day a string of purulent matter was found in the neighborhood of the wound. This seemed to have the effect of relieving the pressure in the head. On the following day the patient spoke audibly but very indistinctly, and the pulse, which had been at eighty, came down to sixty. He was perfectly conscious and rational. The wound was kept open, but no more pus came forth; and the morning after, six leeches were placed upon the forehead,

and the bites encouraged to bleed for three hours. On the fourteenth day the pulse had once more risen to seventy, and the power and distinctness of speech, as well as the general strength, began to increase. On the thirtieth day the man walked to the door, and it became very difficult henceforth to enforce the quiet and rest which his physician still conceived necessary. The wound, which on the twenty-fifth day after the injury could not be probed deeper than the bone, was thereafter permitted to heal up. About the 8th or 10th of May the patient began to go about, and now has nearly regained his health.

MEDICAL NOTES.

— It is our sad duty to record this week the death of Dr. Stephen Salisbury, a well-known and highly esteemed member of our profession, who died quite suddenly at his home in Brookline on the 13th of this month. Dr. Salisbury was a graduate of Harvard College in the class of 1832, and also of the Harvard Medical School three years later. He studied medicine with Drs. Warren and Hayward, and was for a year resident pupil of the Massachusetts General Hospital. At the close of his hospital appointment, he went to Europe, where he studied for fifteen months in Paris. Upon his return he practiced medicine in Boston for two years; but as ill-health obliged him to leave the city, he settled in Medway, and there resumed his professional duties until continued ill-health again forced him to relinquish them for a season. When rest had completed his recovery, at the earnest entreaty of many of his old patients he returned to Medway, where he remained for seven or eight years. After this he removed to Brookline, where he succeeded to the practice of Dr. Dexter, which increased till at the time of his death it had become very extensive.

Such was Dr. Salisbury's interest and devotion to his profession that he rarely allowed himself any vacation. This constant strain of work was too much for his strength, and after an excessive demand upon his services during the middle of this summer he was obliged to abandon his duties and retire to Leominster, where for several weeks he was confined to the house; but being anxious to reach home, and feeling himself equal to the journey, he returned to Brookline on the 8th of September. Instead, however, of improving, he progressively lost ground, and on the 12th his death was imminent. The following day he rapidly sunk and died. The nature of his disease was not discovered until the day before his death, when it was evident that he had œdema of the lungs, which was suspected to be closely associated with disease of the kidneys. The autopsy revealed that these latter organs were the seat of chronic desquamative nephritis, and that the immediate cause of his death was pulmonary œdema.

His loss will be sadly felt, not only by many of his professional brethren, but by all who knew him. Such courtesy, modesty, and faithful devotion to his profession cannot but call forth our admiration and respect, and will never be forgotten by those who were the daily witnesses of his life.

— In France, a midwife has lately been condemned to fifteen months' imprisonment, and to pay a fine of two hundred and forty francs, besides costs, for causing the death of two women by improper use of forceps during their confinements. The two women having died under suspicious circumstances, the authorities caused their bodies to be disinterred, and post-mortem examinations to be made, which showed that both had died from pelvi-metritis of traumatic origin. It was found in each case that the vaginal tissues and those about the neck of the womb had been extensively lacerated. No pelvic deformity seeming to indicate instrumental interference was discovered. Testimony showed that the labors were in every way normal, and that the brutal application of the forceps had been made with an entirely unjustifiable object — either to make as much show as possible, or to terminate the labor as rapidly as possible. Moreover, it was shown that in thirty labors the midwife in question had applied the forceps twenty-four times, and that, assisted by a peasant whom she had furnished with a razor, she had practiced the operation of Cæsarean section post mortem, without informing the physician of the locality. When required to show upon the manikin her manner of applying the forceps, it was found that she was totally ignorant of the method of their proper application.

— At a meeting of the Société Anatomique held March 12, 1875, M. Léger reported a case of spiroidal fracture of the femur. The patient, aged fifty-four years, fell from the second story of a building. When brought to the hospital he was wholly conscious, and the principal injury was found to be about the thigh, where was a deformity exactly resembling a simple sub-trochanteric fracture. There was entire helplessness; considerable shortening existed, and crepitation was easily produced by attempts at reduction. Three days later, after febrile symptoms, swollen abdomen, etc., the patient died. The autopsy showed no evidences of peritonitis. At the level of the fracture there was a considerable effusion of blood, although no important blood-vessel was found wounded by the fragments. Besides effusion of blood into the cellular tissue of the abdomen and thigh, on examining the fracture three fragments were found. The superior was formed by the head and neck of the femur and by both trochanters. The great trochanter was fractured longitudinally without impaction of its posterior third into the corresponding face of the neighboring fragment. The two fragments formed by their union a V, of which the opening looked downwards, and into which the point of the inferior fragment, formed by the body of the femur, penetrated. Finally, behind and outside was the third fragment, formed by the corresponding part of the shattered bone. There was, in short, a spiroidal fracture of the femur, with penetration of the inferior fragment by its point into the body of the trochanter in such a way that it did not produce the ordinary impaction found in fractures of this tuberosity.

— A striking description of the state of the Hôtel Dieu hospital in the time of the Grand Monarque, Louis XIV., is given in an extract made by the *London Medical Record* from M. Maxime du Camp's elaborate work on Paris, des Organes, ses Fonctions, sa Vie, just completed. It seems that the institution contained 2800 patients, heaped in fours, fives, and even sixes on the same bedstead, in wards where the wet linen was hung to dry. When, in 1785, the delegates appointed by the Academy of Sciences, with which Louis

XVI. had taken counsel on the subject, visited the former leper hospital, they found 3418 patients in 1219 beds, some even being placed on the testers of the beds. The wounded in war, fever patients, those who had undergone operations, women in child-bed, maniacs, patients laboring under loathsome skin-diseases, small-pox cases, and consumptive patients, all massed together in the most abominable confusion, died side by side on the same pallet. The dead were allowed to remain for hours by the side of the dying; operations were performed in the general ward, on the bed used in common with other patients; and it is said that, when the coverlid thrown over all this living corruption was lifted up, a perceptible lye ran away. Louis XVI. was touched by this misery, and it was decided that the Hôtel-Dieu should be suppressed, and that four hospitals should be constructed, placed in the outskirts of the city, and amongst trees. Even the funds necessary for the execution of this project were forthcoming, but were used by the minister, Lomènie de Brienne, to stave off some other pressing want, and the Hôtel-Dieu remained what it had always been — a charnel-house — until the Revolution.

LETTER FROM WASHINGTON.

Messrs. Editors, — It is perplexing to an inhabitant of Washington who visits New York and Boston in his summer's vacation, anticipating the pleasure of profitable intercourse with his professional brethren, to find the custom of going out of town for the season so universal at the North. Even n Newport, at the height of the season, your correspondent missed seeing an old hospital chum because he was "away on vacation." We are led to wonder a little at this, and to ask, Are our Northern brethren so blessed with lucrative practice as to be able to give up the hot summer months, during which disease is so prevalent, to recuperation and recreation, or are many of them like the distinguished physiologist who, in the summer, would shut up the front of his house, and, directing his servant to say he was out of town, devote himself in his back office to original research and experiment? We imagine the custom to result from the peculiar advantages offered by these cities, which enable one to attend many families at some convenient summer resort, and which render also his city practice of easy access. And this is what we in Washington stand very much in need of; we have no summer resort worthy of the name within much less than a day's journey. It is quite as easy for our patients to visit New York as any other available place, and to make that a point of departure. As a consequence, a certain class of our patrons become scattered to the four quarters of the fashionable globe. There has recently been an attempt, which as yet is in its incipiency, but which promises well, to establish a watering place on Chesapeake Bay; twenty-five miles of railroad from here would reach it readily, and salt-water bathing, fishing, and shooting are to be had there to a satisfactory extent; but malaria lurks in all the pleasant little nooks along the Potomac and the Chesapeake Bay. Nevertheless prudence and forethought as to exposure lessen this danger very materially. As a consequence

of the necessary expense involved in a Northern trip, many families remain here throughout the summer, and the medical man is forced to remain also to look after his interests.

A summer's residence in Washington, though void of all variety and excitement, can be endured very comfortably. The signal office reports give us the following as the record for the three summer months, this season being, it is true, an exceptional one: For June the average mean of the temperature was 71.3°; the lowest was June 13th, 55°; the highest, June 25th, 96.5°; average diurnal variation, 15°. For July the average mean was 77.5°; the lowest, July 2d, 66°; the highest, July 18th, 94°; average diurnal variation, 10.4°. For August (three weeks) the average mean was 73.6°; the lowest, August 3d, 60°; the highest, August 10th, 87°; average diurnal variation, 12°. The amount of rain-fall for June was 1.52 inches; for July, 3.75 inches; for August, 6.47 inches.

The Board of Health is now well established, and seems to be in excellent working order; although from its composition it does not enjoy the full confidence of the profession, yet its importance is recognized, and from necessity it has in a certain sense medical support. The weekly statements of births, marriages, and deaths, with the causes of the latter, furnish much useful information to the profession. For July the decrease of the whites, or the excess of deaths over births, was at the rate of 6.36 per thousand per annum; of the colored population it was 25.5 per thousand per annum, a disproportion which shows itself in every report as more or less marked. And this disproportion manifests itself not so much in the mortality from disease as in the large number of what are put down as "still births" among the colored race, and the comparatively small number of live children born.

There has been a slight tendency here of late to affections taking on the typhoid character. Last week's mortality-bill (August 21st) recorded four deaths from typhoid fever. One of our most promising young physicians, Dr. Benjamin Thompson, has recently died of this disease. Malaria, which exerts its subtle influence in such a variety of forms in this region, is now in season, though as yet we have suffered but little from it; it will disappear with the coming of frosty weather. Quinia will have a prominent place among the drugs prescribed. Whether the excessive rain-fall of this summer will influence the intensity of the disease remains to be seen; it is certain that of late years Washington has become less and less liable to this unpleasant visitor, as the streets towards the river front have been paved, drained, and built upon; and when the government executes its scheme of reclaiming the river flats by the construction of a suitable sea-wall, we hope to be able to reduce this morbific influence to its minimum of power.

Professional matters are stagnant; the colleges and societies are closed; clinics are suspended at the hospitals, and some of the latter, it is to be regretted, are in danger of contracting their sphere of usefulness. The Columbia Hospital for Women has, for a series of years, carried on the largest dispensary in the city; now, from lack of funds, it is threatened with a permanent closure of its dispensary. A premature announcement to that effect has already appeared in the newspapers, but the managers still hope by making

strong efforts to devise ways and means to continue in the future what has proved so serviceable in the past. One misfortune of the hospital has been that it belongs, strictly speaking, neither to the profession nor to the government; as in the case of other institutions here, government aid insures in great part its vitality. It has become of too much importance to be embarrassed for lack of funds, and it is to be hoped that it will before long be put upon a secure foundation.

Dispensary cases, as a rule, are barren of points of special interest; but an opportunity has recently been afforded in the Columbia Hospital Dispensary of testing the efficacy of salicylic acid in diabetes mellitus. The disease manifested itself in a colored woman, past middle age, and had existed three years when the patient was put under medical treatment. The symptoms were characteristic: cataracts in both eyes, and at least fourteen per cent. of sugar in the urine, by Fehling's test. The patient had been under various forms of treatment without avail. About a year ago the carbolic-acid treatment was instituted with marked general improvement, and the reduction of the amount of sugar in the urine to seven per cent. The diet, of course, was regulated as far as possible. Four months ago, when salicylic acid first began to attract the attention of the profession, it was substituted for the carbolic acid; it was given finally, as experience proved it to be well borne by the system, in ten-grain doses (in pill) three times daily. The urine for several weeks past has been registered as containing sugar at from one third to one half of one per cent. At present, simply traces are recorded, not sufficient in amount to be registered by Fehling's test. The amount of urine passed in twenty-four hours is reduced to the normal quantity. All the symptoms have been correspondingly relieved, and in consequence the diet has been made more liberal in starchy substances. Particulars of the case are omitted, as it will probably be reported in full after a sufficient lapse of time. Were it not for Pavy's recent experiments on oxygenated blood in producing glycosuria, and his failure to find a ferment in the blood, this case might be considered as furnishing a confirmation of Schiff's theory.

In saying that the colleges were closed for the summer season, it was not intended to imply that they had done no work since the winter term. Both of our colleges instituted this year a spring course, Georgetown College having taken the lead the year before. In the Georgetown College the course was conducted by an auxiliary faculty, and was free of charge; in the National Medical College it was conducted in great part by the faculty proper, and the usual college fee for a spring course was charged. As a consequence, in the latter, six or eight students attended, with perhaps somewhat more than double that number in the other, a very small percentage, for either school, of the winter attendance. But it is to be hoped that the same experiment will be repeated next year; though few in number, the men in attendance were such as it is worth while to stimulate and encourage as far as possible. The idea that this is an enervating summer climate seems to be sufficient to restrain the greater part of the students from too much extra brain-work.

In the Medical Department of the United States Army the History of the War and the Medical Index are progressing rapidly; the latter has already proved of great service to those of the profession who have had occasion,

through the politeness of Dr. Billings, to consult it in its manuscript form; it is a stupendous work, and its usefulness will be appreciated by all who have worked up magazine literature in search of cases or theories. This department, we are informed, will be well represented at the Centennial by a model hospital, which will contain the latest improvements in hospital appointments and appliances for military surgery, besides well-selected specimens from the departments of pathology, microscopy, and literature. The reports of the recent serious outbreak of yellow fever at our Southern military posts are not yet in a form to be made available to the profession, as Dr. Sternberg, who, with Dr. Harvey Brown, has been most familiar with the course and extent of the disease, is himself slowly convalescing from an attack of the disease. No new cases have developed recently.

The Bureau of Medicine and Surgery of the Navy Department is now about to add a third volume to the two already published, of Contributions to Medical Science; it is passing through the press, and will be given to the profession in a few weeks. It is intended to be by far the most important yet published, as regards the size and contents of the volumes, and will contain reports on the cause, rise, and progress of the yellow fever on our seaboard naval stations, and on board of our men-of-war, with details of cases, temperature-charts, etc., embodying the reports of Surgeon J. R. Tryon, Acting Passed Assistant Surgeon F. V. Green, and others, sanitary reports of all vessels and stations, and special communications on subjects of medical interest. No new cases of yellow fever have been reported for some days past, and high credit is given to Acting Assistant Surgeon R. J. Perry for the skillful aid which he has rendered in the line of his duty at Key West in combating this disease.

HOMO.

WASHINGTON, D. C., *August* 27, 1875.

MERCURIAL TEETH.

MESSRS. EDITORS, — At a meeting of the Pathological Society of London, March 2d,[1] Mr. Jonathan Hutchinson spoke of the frequent association of imperfectly developed enamel, on the permanent incisors, canines, and first molars, with zonular cataract; though this defect often occurs independently without cataract. "It is highly probable that the defects in the development of the teeth are usually due to the influence of mercury exhibited in infancy, although it is quite possible that other influences, attended perhaps by inflammation of the gums, may occasionally produce similar results." He refers to the opinion of Arlt, and adopts it, that zonular cataract is probably directly connected with convulsions in infancy; then returns to mercury as the cause of the defective teeth, but thinks the cataract is not caused by mercury, for "the great frequency of mercurial teeth without lamellar cataract, the not very infrequent occurrence of lamellar cataracts without mercurial teeth, are opposed to such a view." He thinks the coexistence of the cataract and defective teeth

[1] Medical Times and Gazette, March 27, 1875.

is explained by "the frequency with which mercury is given for the treatment of convulsions in infancy."

In the discussion which followed, a difference in opinion was shown to exist; yet the opinion of Mr. Hutchinson in regard to "mercurial teeth" was only feebly opposed. His reasoning seems very defective. If, as he says, it is exceptional to meet with lamellar cataract without defective teeth, the first impression would be that they had a common cause; but later he says that it is "not very infrequent" to find lamellar cataract without "mercurial teeth," thus partially contradicting himself. As in his next conclusion he seems to depend upon the frequent exhibition of mercury in convulsions to explain the association of the two defects, why does he not from that conclude also that the cataract is due to mercury? for he thinks there is probably a direct connection between the convulsions and the development of the cataract, therefore mercury must have been given in as many cases of cataract without defective teeth as in cases where defective teeth exist alone. The conclusion at which he arrives that the defective teeth are "mercurial teeth" seems to rest upon assumption only; then having assumed this he argues from it as an established fact. While not wishing to assume the opposite view, I do wish to show that Mr. Hutchinson has not proved his position, but that the conclusions given in the society's reports would rather favor the inference that both defects are dependent upon disturbance of nervous influence.

In support of this I may refer to a child who during infancy had a very slight attack of infantile paralysis, had also three attacks of convulsions, whose upper and lower front incisors of the permanent set are without enamel. She has never had mercury, to my certain knowledge, and there has been no "inflammation of the gums."

S. G. Webber.

Boston, *July* 10, 1875.

WEEKLY BULLETIN OF PREVALENT DISEASES.

The following is a bulletin of the diseases prevalent in Massachusetts during the week ending September 18, 1875, compiled under the authority of the State Board of Health from the returns of physicians representing all sections of the State: —

The cool and changeable weather of the last week had the effect of increasing the prevalence of pulmonary and throat affections, and of diminishing that of the intestinal disorders. The order of relative prevalence of acute diseases is as follows: Diarrhœa, typhoid fever, dysentery, cholera morbus, cholera infantum, bronchitis, rheumatism, pneumonia, influenza (including "hay fever"), diphtheria, scarlatina, whooping-cough. Typhoid fever has not increased, but it is high in the scale.

Berkshire: Diarrhœa, cholera infantum, dysentery, cholera morbus, typhoid fever.

Valley: Diarrhœa, typhoid fever, cholera morbus, cholera infantum, dysentery. Epidemic of mild typhoid in North Hadley.

Midland: Diarrhœa, cholera morbus, dysentery, cholera infantum, typhoid fever, bronchitis.

Northeastern: Diarrhœa, cholera morbus, typhoid fever, dysentery, cholera infantum. Natick reports the local prevalence of dysentery in houses near an open sewer, which empties its filth "into Pegan Brook and thence into Lake Cochituate." Lynn reports five cases of typhoid in one family whose well receives the surface drainage from the outhouses.

Metropolitan: Diarrhœa, dysentery, typhoid fever, cholera infantum, bronchitis, cholera morbus, pneumonia.

Southeastern: Diarrhœa, dysentery, typhoid fever, cholera morbus, cholera infantum.

F. W. Draper, M. D., Registrar.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPT. 11, 1875.

	Estimated Population.	Total Mortality for the Week.	Annual Death-Rate per 1000 during Week.
New York	1,060,000	628	31
Philadelphia	800,000	312	20
Brooklyn	500,000	289	30
Chicago	400,000	183	24
Boston	342,000	228	35
Cincinnati	260,000		
Providence	100,700	37	18
Worcester	50,000	24	25
Lowell	50,000	26	27
Cambridge	48,000	22	24
Fall River	45,000	22	25
Lawrence	35,000	16	24
Lynn	33,000	18	28
Springfield	31,000	7	12
Salem	26,000	16	32

Normal Death-Rate, 17 per 1000.

Suffolk District Medical Society. — The regular meetings will be resumed at 36 Temple Place, on Saturday, September 25th, at seven and a half P. M. Dr J. R. Chadwick will report a case of Extirpation of the Uterus for Fibroid Tumor, with specimens. Dr. T. W. Fisher will read a paper on Limited Responsibility, with a discussion of the Pomeroy case. The members of other State and district societies are cordially invited.

Books and Pamphlets Received. — Ziemssen's Cyclopædia of the Practice of Medicine. American Edition, Volume X. Diseases of the Female Sexual Organs. By Prof. Carl Schroeder. New York: Wm. Wood & Co. 1875.

The Mucous Membrane of the Uterus, with special reference to the Development and Structure of the Deciduæ. By George J. Engelmann, M. D. (From the American Journal of Obstetrics.) New York: Wm. Wood & Co. 1875.

Contribution to the Medical History and Physical Geography of Maryland. By Joseph M. Toner, M. D. Oration before the Medical and Chirurgical Society of Maryland. Baltimore. 1875.

Tinnitus Aurum. By Samuel Theobald, M. D. From the Transactions of the Medical and Chirurgical Faculty of Maryland. Baltimore. 1875.

Fig. 1.

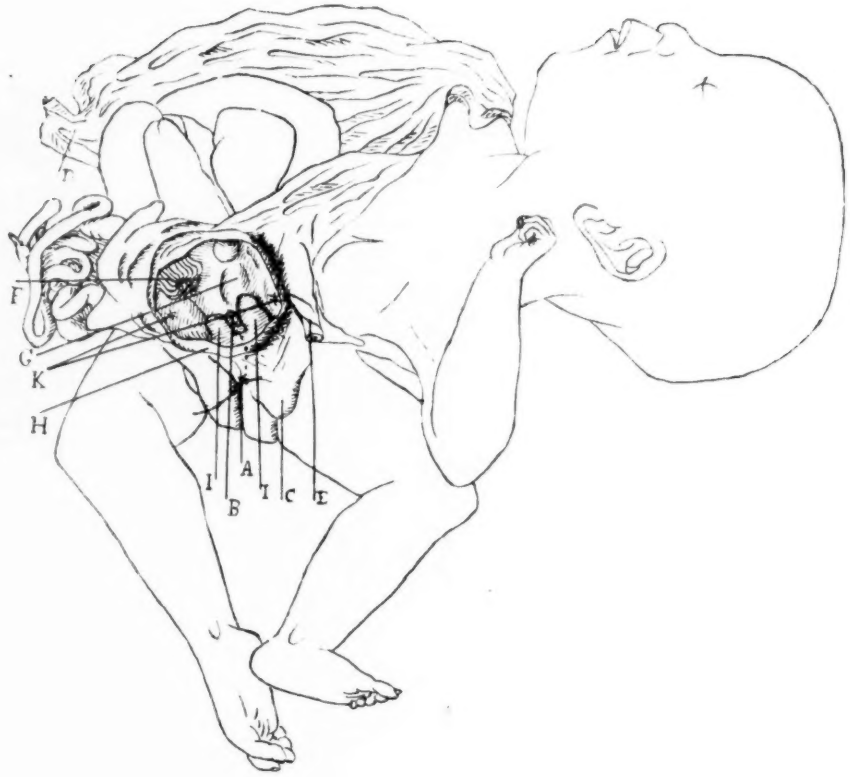

Fig. 2.

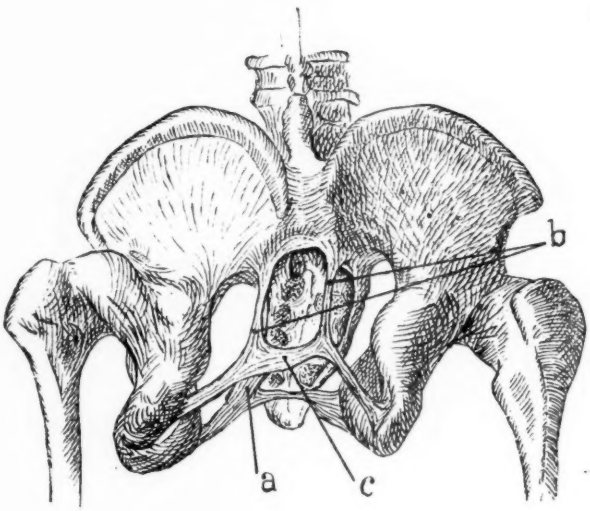
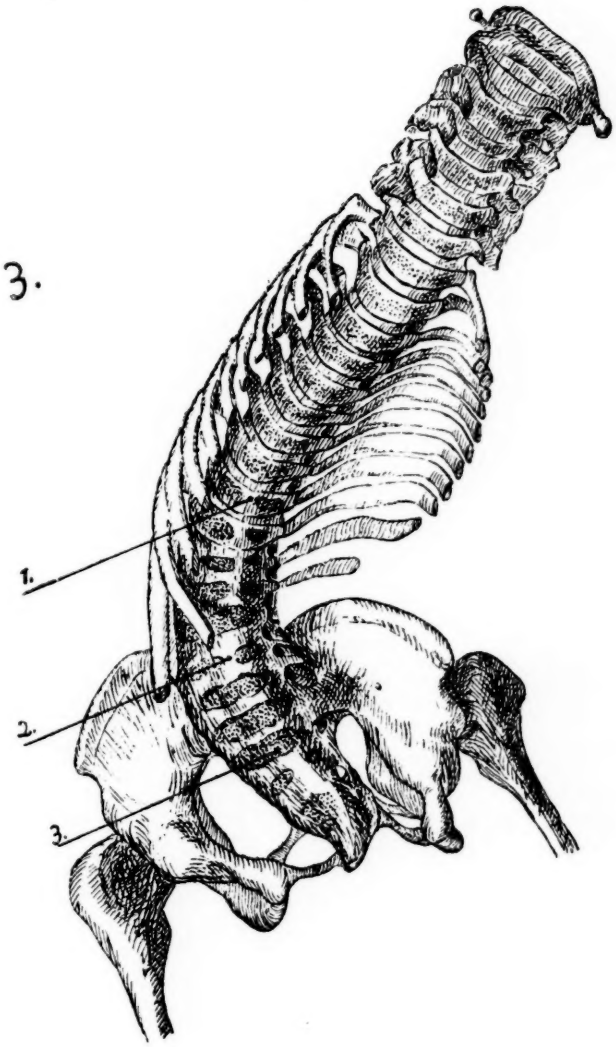
Fig. 3.